

Remarks

Claims 43-45, 47, 49-52, and 57-86 are now pending in this application. Applicants have amended claims 43-45, 47, 49, 51 and 52, cancelled claims 41, 42, 46, 48 and 53-56 and presented claims 81-86 to clarify the claimed invention. Claims 57-80 are withdrawn from consideration by the Examiner as being directed to non-elected inventions.

Applicants have amended the specification to correspond to the original text of the PCT application, which was filed in the Finnish language.

The amendments to the claims are supported by the specification as follows. Page 25, lines 26-27, describe that a target color may be selected. Page 14, line 30, described that the elementary gratings may be formed on a substrate. Page 13, line 37, through page 14, line 1, describe and Figs. 7, 8, and 10 illustrate that the elementary gratings may be adjacent.

Page 6, lines 10-14, describes that the target color ("hue in question") may be produced by controlling the area ratios of the elementary gratings. Page 1, lines 5-7, describes that the target color may be formed by mixing two or more diffractively produced primary colors. Page 5, lines 4-6 and 32-36, describe that each primary color may be produced by an elementary grating, and that the target color may be produced by additively mixing the primary colors.

Page 5, lines 23-26, describe that the primary colors are produced by the elementary gratings in a specific illumination. Page 13, line 34, through page 14, line 3, describes that the

primary colors may be mixed when each elementary grating reflects the corresponding primary color in the same viewing angle. Page 14, line 12, describes that the target color is detectable in the direction specified by the viewing angle.

Page 14, lines 7-16, describe that the grating divides light into parts reflected in different directions according to the grating equation such that the desired primary color is produced in a viewing direction specified by a viewing angle. Page 13, lines 20-22, describe that each elementary grating may produce only one primary color in the viewing direction. Page 6, lines 5-7, describe that primary color candidates may correspond to spectral peaks of fluorescent light. That is, the primary colors may correspond to the spectral peaks of illuminating light.

Page 7, line 31, through page 8, line 3, describe that other light sources including a discrete spectrum may be used instead of a fluorescent lamp. For example, light diodes, semiconductor lasers, gas lasers or crystal lasers may be utilized. Page 21, lines 18-24, describe that the primary colors are mixed with the color of a substrate. Figs. 7, 8 and 10 illustrate that the rectangular form of the basic area units.

Page 25, lines 7-9, support newly presented claim 81. Page 21, lines 18-24, supports newly presented claim 82. Page 19 lines 33-36, support newly presented claim 83. Page 7, lines 1-5 support newly presented claim 84. Page 7, lines 1-5 support newly presented claim 85. Page 25, lines 26-32, and page 6, line 32, through page 7 line 5, support newly presented claim 86 in that these passages describe that control data may be provided for manufacturing an embossing block.

The Examiner rejected claims 41, 42, 46-52, 54 and 56 under 35 U.S.C. § 102(b) as being anticipated by U.S. patent 5,956,015 to Hino. The Examiner rejected claims 43-45, 53 and 55 under 35 U.S.C. § 103(a) as being unpatentable over Hino.

Hino does not disclose the invention recited in claims 81, 47, or 49-52 since, among other things, Hino does not disclose a method that includes that each elementary grating formed on the substrate is arranged to diffractively produce a primary color in a predetermined viewing direction. Rather, the cathode ray tube (CRT) display of Hino does not produce the colors diffractively. The CRT display forms colors by fluorescence when an electron beam emitted from a cathode impinges on a fluorescent pixel.

Light emitted from a fluorescent pixel of a CRT display has the same color in all viewing directions. On the other hand, colors that are diffractively produced by a grating are different in different viewing directions. As described at page 14, lines 8-16, light impinging on the grating is divided into parts so that the parts are reflected in different directions according to the grating equation. As known in the field of optics, the grating equation defines that the wavelength of reflected light depends on the viewing angle.

The Examiner asserts that a grid existing on the computer monitor of Hino could be interpreted to be a grating formed on a substrate. However, even if the CRT display of Hino were interpreted to include a grid, the display would include only one grid. On the other hand, claim 81 defines forming two or more adjacent elementary gratings. Hino does not

disclose two or more adjacent gratings arranged to produce a target color by additively mixing two or more primary colors.

In view of the above, Hino does not disclose all elements of the invention recited in claims 81, 47, or 49-52. Since Hino does not disclose all elements of the invention recited in claims 81, 47, or 49-52, the invention recited in claims 81, 47, or 49-52 is not properly rejected under 35 U.S.C. § 102(b). For an anticipation rejection under 35 U.S.C. § 102(b) no difference may exist between the claimed invention and the reference disclosure. *See Scripps Clinic and Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q. 841 (C.A.F.C. 1984).

Along these lines, anticipation requires the disclosure, in a cited reference, of each and every recitation, as set forth in the claims. *See Hodosh v. Block Drug Co.*, 229 U.S.P.Q. 182 (Fed. Cir. 1986); *Titanium Metals Corp. v. Banner*, 227 U.S.P.Q. 773 (Fed. Cir. 1985); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986); and *Akzo N.V. v. U.S. International Trade Commissioner*, 1 U.S.P.Q.2d 1081 (Fed. Cir. 1986).

Hino does not suggest the invention recited in claims 43-45 since, among other things, Hino does not suggest a method that includes that each elementary grating formed on the substrate is arranged to diffractively produce a primary color in a predetermined viewing direction. Rather, Hino suggests a CRT display that forms colors by fluorescence when an electron beam emitted from a cathode impinges on a fluorescent pixel rather than producing the colors diffractively.

It would not have been obvious to modify the computer display of Hino by replacing the fluorescent pixels with gratings, which are arranged to diffractively produce colors. Along these lines, it would not have been obvious to replace the fluorescent pixels of Hino with gratings because in that case the colors would be displayed correctly only in the predetermined viewing direction. Additionally, replacing the fluorescent pixels of Hino with gratings would make it necessary to use an external light source, which is positioned in a predetermined location with respect to the display. Furthermore, it would not have been obvious how an image formed by the display could be controlled according to the output of a computer connected to the display. In other words, it would not have been obvious how the grating period and grating height could be controlled, that is, changed, in real time according to the output of a computer.

In view of the above, the reference relied upon in the office action does not disclose or suggest patentable features of the claimed invention. Therefore, the reference relied upon in the office action does not anticipate the claimed invention or make the claimed invention obvious. Accordingly, Applicants respectfully request withdrawal of the rejections based upon the cited reference.

In conclusion, Applicants respectfully request favorable reconsideration of this case and issuance of the Notice of Allowance.

If an interview would advance the prosecution of this case, Applicants urge the Examiner to contact the undersigned at the telephone number listed below.

The undersigned authorizes the Commissioner to charge fee insufficiency and credit overpayment associated with this communication to Deposit Account No. 22-0261.

Respectfully submitted,

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